AMENDMENTS TO THE CLAIMS

1. (Currently Amended)   A system for processing communication data from a

code signal input, the system comprising:

a signal sampler operable to receive signal data;

a Doppler shift system operable to provide a Doppler shift correction value;

a storage circuit configured to receive and store the signal data;

a time domain signal processor comprising a complex mixer, coupled to the

storage circuit and Doppler shift system, for mixing at least a portion of the signal data

with the Doppler shift correction value;

a complex product generation circuit, coupled to the complex mixer and the code

signal input, for computing a complex product of the mixed portion of the signal data

with a current code phase of a code signal received a the code signal input;

a summing circuit coupled to the complex product generation circuit for summing

the computed complex products as a current complex integration value;

a square root circuit, coupled to the summing circuit, for computing a square root

value of the sum of the squares of the current complex integration values, each square

root value having a magnitude and an associated code phase; and

an output processing circuit coupled to the square root circuit for processing a

plurality of computed square root values; and, where

a the time domain signal processor is in signal communication with the signal

sampler, the Doppler shift system and code signal input, the time domain signal processor

operable to shift the signal data by the Doppler shift correction value and to determine a

correlation between the shifted signal data and the code signal input where the code phase

2

and the magnitude of the computed square root value having the largest magnitude indicates that correlation between the shifted signal data and the code signal and wherein the time domain processor is a matched filter processor synchronized to a T20 period.

2. (Original)   The system of claim 1 wherein the code signal input is a code division multiple access signal.

3..(Cancelled)

4. (Cancelled)

5. (Original)   The system of claim 1 wherein the Doppler shift system further comprises a Doppler shift generator.

6. (Original)   The system of claim 1 wherein the Doppler shift system further comprises a lookup table with stored precomputed Doppler shift correction values.

7. (Original)   The system of claim 1 wherein the Doppler shift system is coupled to the time domain signal processor by a data bus.

8. (Original)   The system of claim 1 wherein the signal sampler receives the signal data from a radio frequency receiver.

9. (Currently amended)   A method for processing communication data comprising:

receiving signal data;

applying a Doppler shift correction value to the signal data that includes complex mixing at least a portion of the signal data with the Doppler shift correction value and results in Doppler shifted signal data;

receiving a code signal; and

3

determining a correlation between the Doppler shifted signal data and the code signal in a time domain <u>with a matched filter processor synchronized to a T20 period, where the determining</u> ~~that~~ further includes,

(a) computing complex products for the mixed portion of the signal data with current code phase of the code signal,

(b) summing the computed complex products as a current complex integration value,

(c) computing a square root value of the sum of the squares of the current complex integration value, each square root value having a magnitude and an associated code phase.

(d) shifting the code signal to a next current code phase.

(e) repeating (a) through (d) for the current code phase of the code signal, and outputting the code phase and magnitude of the computed square root value having the largest magnitude as an indication of the correlation between the Doppler shifter signal data and the code signal.

10. (Cancelled)

11. (Original) The method of claim 9 wherein applying a Doppler shift correction value to the signal data comprises

receiving the Doppler shift correction value.

12. (Original) The method of claim 9 wherein applying a Doppler shift correction value to the signal data comprises

receiving the Doppler shift correction value from a lookup table, and

4

complex missing at least a portion of the signal data with the Doppler shift correction value.

13. (Cancelled)

14. (Original) The method of claim 9 wherein determining the correlation between the Doppler shifted signal data and the code signal comprises processing the Doppler shifted signal data and the code signal with a matched filter processor.

15. (Currently amended)   A system for processing radio frequency data comprising:

a signal sample receiver operable to receive signal data;

a Doppler shift corrector operable to provide a Doppler shift correction value;

a code signal receiver operable to receive a code signal;

a processor coupled to the signal sample receiver, the Doppler shift corrector, and the code signal receiver, the processor operable to apply the Doppler shift correction value to the signal data and to determine a correlation between the Doppler shifter signal data and the code signal with a matched filter processor synchronized to a T20 period and the processor further includes,

a complex mixer coupled to the signal sample receiver, the complex mixer operable to mix at least a portion of the signal data with a Doppler shift correction value,

a complex product processor coupled to the complex mixer, the complex product processor operable to compute a complex product of the mixed portion of the signal data and a current code phase of a code signal.

5

a summer coupled to the complex product processor, the summer operable to compute the complex products as a current complex value,

a square root processor coupled to the summer, the square root processor operable to compute the value of the sum of the squares of the current complex integration value, each square root value having a magnitude and an associate code phase, and

a controller operable to determine the code phase and magnitude of the computed square root value having the largest magnitude as an indication of correlation between the Doppler shifted input signal and the code signal; and

a signal processor ~~couple~~ coupled to the signal sample receiver, the signal processor operable to process the signal data to ~~the~~ extract encoded data.

16. (Cancelled)

17. (Previously presented)   The system of claim 15 wherein the system is implemented in the computer code operation on a computing processor of a code division multiple access radio receiver.

18. (Previously presented)   The system of claim 15 wherein the system is implemented in a semiconductor device.

19. (Previously presented)   The system of claim 15 wherein the system is implemented in an application-specific integrated circuit.

20. (Previously presented)   The system of claim 15 wherein the processor is a time domains signal processor.

21. (Previously presented)   The system of claim 15 wherein the processor is a frequency domain signal processor.

6

22. (Currently amended)   A system for processing communication data from a code signal input, the system comprising:

means for receiving signal data;

means for providing a Doppler shift correction value; and

a time domain signal processor coupled to the receiving means, providing means and the code signal input, the time domain signal processor operable to shift the signal data by the Doppler shift correction value and to determine a correlation between the shifter signal data and the code signal input wherein the time domain signal processor is a matched filter processor synchronized to a T20 period and includes,

means for storing configured to receive and store the signal data,

means for complex mixing coupled to the storing means and providing means for mixing at least a portion of the signal data with the Doppler shift correction value,

means for complex product generation, coupled to the complex mixing means and the code signal input, for computing a complex product of the mixed portion of the signal data with a current code phase of the code signal,

means for summing, coupled to the complex product generation means, for summing the computed complex products as a current complex integration value,

means for generating an envelope, coupled to the summing means, for computing a square root value of the sum of the squares of the current complex integration values, each square root value having a magnitude and an associated code phase, and

an output processing circuit, coupled to the generating an envelope means, for processing a plurality of computed square root values, wherein the code phase and

7

magnitude of the computed square root value having the largest magnitude indicates the correlation between the shifted signal data and the code signal.

23. (Original) The system of claim 22 wherein the code signal input is a code division multiple access signal.

24. (Cancelled)

25. (Cancelled)

26. (Original) The system of claim 22 wherein the providing means further comprises a Doppler shift generator.

27. (Original) The system of claim 22 wherein the providing means further comprises a lookup table with stored precomputed Doppler shift correction values.

28. (Original) The system of claim 22 wherein the providing means is coupled to the time domain signal processor by a data bus.

29. (Original) The system of claim 22 wherein the receiving means receives the signal data from a radio frequency receiver.

30. (Cancelled)

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

8

39. (Currently amended)   A computer readable medium having software for processing communication data from a code signal, the computer readable medium comprising:

means for receiving signal data;

means for applying a Doppler shift correction value to the signal data that results in a Doppler shifter signal data;

means for determining a correlation between the Doppler shifter signal data and the code signal in time domain with a matched filter routine synchronized to a T20 period, the means for determining further that includes

means for computing complex products for the mixed portion of the signal data with a current code signal,

means for summing the computed complex products as a current complex integration value,

means for computing the square root value of the sum of the squares of the current complex integration value, each square root value having a magnitude and an associated code phase,

means for shifting the code signal to a next current code phase, and

means for outputting the code phase and magnitude of the computed square root value having the largest magnitude as an indication of the correlation between the Doppler shifter signal data and the code signal.

9

40. (Original) The computer readable medium of claim 39 wherein the applying means comprises means for complex mixing at least a portion of the signal data with the Doppler shift correction value.

41. (Original) The computer readable medium of claim 39 wherein the applying means comprises

means for receiving the Doppler shift correction value over a data bus, and means for complex mixing at least a portion of the signal data with the Doppler shift correction value.

42. (Original) The computer readable medium of claim 39 wherein applying means comprises

means for receiving the Doppler shift correction value from a lookup table, and

means for complex mixing at least a portion of the signal data with the Doppler shift correction value.

43. (Cancelled)

44. (Currently Amended)   The computer readable medium of claim 39 wherein the determining means comprises means for processing the Doppler shifted signal data and the code signal with a the matched filter routine.

10